

What is claimed is:

1. A solid-state imaging element comprising a plurality of photoelectric converting regions which are arranged on a surface of a semiconductor substrate along a row direction and a column direction perpendicular to the row direction, wherein:

each of the photoelectric converting regions contains a main region having a relatively wide light-receiving area and a sub-region having a relatively narrow light-receiving area; and

a partial photoelectric converting region within the plurality of photoelectric converting regions outputs photoelectric converting signals having different spectral sensitivities with respect to the main region and the sub-region.

2. A solid-state imaging element comprising a plurality of photoelectric converting regions which are arranged on a surface of a semiconductor substrate along a row direction and a column direction perpendicular to the row direction, wherein:

each of said photoelectric converting regions contains a main region having a relatively wide light-receiving area and a sub-region having a relatively narrow light-receiving area; and

the photoelectric converting regions includes:

a first sort of photoelectric converting region in which both the main region and the sub-region output photoelectric converting signals having a first spectral sensitivity;

a second sort of photoelectric converting region in which the main region outputs a photoelectric converting signal having a second spectral sensitivity and the sub-region outputs a photoelectric converting signal having a third spectral sensitivity; and

a third sort of photoelectric converting region in which the main region outputs a photoelectric converting signal having a third spectral sensitivity and the sub-region outputs a photoelectric converting signal having a second spectral sensitivity.

3. A solid-state imaging element comprising a plurality of photoelectric converting regions which are arranged on a surface of a semiconductor substrate along a row direction and a column direction perpendicular to the row direction, wherein:

each of said photoelectric converting regions contains a main region having a relatively wide light-receiving area and a sub-region having a relatively narrow light-receiving area; and

the photoelectric converting regions includes:

a first sort of photoelectric converting region in which both the main region and the sub-region store thereinto

signal electron charges having a first spectral sensitivity;

a second sort of photoelectric converting region in which the main region stores thereinto signal electron charges having a second spectral sensitivity and the sub-region stores thereinto signal electron charges having a third spectral sensitivity; and

a third sort of photoelectric converting region in which the main region stores thereinto signal electron charges having a third spectral sensitivity and the sub-region stores therein signal electron charges having a second spectral sensitivity;

a vertical transfer portion for independently transferring the signal electron charges from the photoelectric converting regions to the main region and the sub-region along the column direction;

a horizontal transfer portion transferring the signal electron charges from the vertical transfer portion along the row direction; and

an output portion for outputting a signal corresponding to the signal electron charges transferred by said horizontal transfer portion.

4. The solid-state imaging element as claimed in claim 2, or claim 3 wherein:

the first sort of photoelectric converting region is arranged in a rectangular lattice shape along both the row direction and the column direction perpendicular to the row

direction;

both the second sort of photoelectric converting region and the third sort of photoelectric converting region are arranged in a staggering shape and are arranged as an entire region in a rectangular lattice shape along the row direction and the column direction perpendicular to the row direction; and

the first sort of photoelectric converting region, the second sort of photoelectric converting region, and the third sort of photoelectric converting region are arranged in the same arranging pitch at such positions which are positionally shifted by a $1/2$ of the arranging pitch along the row direction and the column direction.

5. A solid-state imaging element as claimed in any one of claims 2 to 4 wherein:

the first spectral sensitivity to the third spectral sensitivity are any of spectral sensitivities as to a red color, a blue color, and a green color.

6. A solid-state imaging element as claimed in claim 5 wherein:

the first spectral sensitivity corresponds to a spectral sensitivity of a green color.

7. A solid-state imaging element as claimed in any one of claims 1 to 6 wherein:

the spectral sensitivity is determined by a color filter positioned above said main region and said sub-region.

8. A digital camera wherein:

the digital camera mounts thereon the solid-state imaging element recited in any one of Claim 1 through Claim

7.